

## WHAT IS CLAIMED IS:

1. A tough polymer which is polyvinyl alcohol grafted in an amount of 1-99 wt % with a water or alcohol soluble or dispersible monomer.
2. A tough polymer according to claim 1 wherein said water soluble monomer is selected from vinyl pyrrolidone, vinyl caprolactam, 2-[[[(butylamino)carbonyl]oxy]ethyl acrylate, dimethylaminopropyl methacrylamide, dimethylaminoethyl methacrylate, or their quats, acrylic acid, tetrahydrofurfurylmethacrylate, hydroxyethylmethacrylate, vinyl pyridine, ethoxylated acrylates, methacrylic acid, methylmethacrylate, (2-methacryloxy)ethyl trimethylammonium sulfate, (2-methacryloxy) ethyl (trimethylammonium chloride), 1-vinylimidazole, styrene, silicone (eth-, meth-)acrylates, fluoro(eth-, meth-)acrylates, and mixtures thereof, and the like.
3. A tough polymer according to claim 1 in which the polyvinyl alcohol is processed with 1-50 wt. % with said water or ethanol soluble or dispersible monomer.
4. A solution according to claim 1 in which said polymer is dissolved in a solvent selected from water, alcohol, water-alcohol, water-hydrocarbon, or water-alcohol-hydrocarbon mixtures.
5. A process for making the solution of claim 4 which comprises grafting polyvinyl alcohol with a water or alcohol soluble or dispersible monomer in a solvent which is water, alcohol, hydrocarbon, water-alcohol, water-hydrocarbon, or water-alcohol-hydrocarbon mixtures in the presence of an initiator.

6. A process according to claim 5 wherein said free radical or redox initiator is  $\text{H}_2\text{O}_2$ , ceric complexes, ammonium persulfate, sodium persulfate, potassium persulfate, cumene peroxide, t-butylperoxypivalate, or benzoyl peroxide, ferric chloride, hydrogen peroxide-iron, hydrogen peroxide-copper, azo, and mixtures thereof, or the like.

7. A personal care product including the tough polymer of claims 1-3.

8. A hair care product according to claim 7 which forms a tough, yet flexible film on the hair of the user, which is soluble or dispersible in water, alcohol, water-alcohol, water-hydrocarbon, or water-alcohol-hydrocarbon mixtures.

9. A cosmetic or dermatological, film-forming composition according to claim 7 for producing a water-resistant film demonstrating excellent hold and durability properties.

10. A hair care, skin care, or dermatological mixture containing an intimate blend of polyvinyl alcohol and a water or alcohol soluble or dispersible polymer.